Results of Weed Control Studies in Vegetable Crops—1990

Horticulture
Series No. 620
February 1991

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The Ohio State University
Ohio Agricultural Research and Development Center
Wooster, Ohio

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This publication also reports research involving pesticides. It does not contain recommendations for their use, nor does it imply that the uses discussed here have been registered. All uses of pesticides must be registered by appropriate State and Federal agencies before they can be recommended.

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Results of Field Experiments in Vegetable Crops 1990

Dr. Stanley F. Gorski[1]

GENERAL MATERIALS AND METHODS

Abbreviations for herbicide application methods:

PPI	-Preplant incorporated
Pre	-Preemergence to the weed and crop
Del Pre	-Delayed preemergence, just prior to crop emergence
Post	-Postemergence to the weed and crop

Sprayer:
Treatments were applied with a CO_2 backpack type sprayer with a gpa of 29.5. Other volumes used are noted in individual studies.

Weed Ratings:
Weed counts , for the control plots, were made by counting the number of weeds in a 1 square foot wire frame. Counts were made approximately 30 days after treatment. Comparing to the control, treated plots were visually rated for % (weed) control.All plots were cultivated and hoed regularly after weed counts were taken (except unweeded check).

Injury rating:
Visual rating was done on a percent injury basis with 0 denoting no injury and 100 indicating plant death.

Statistical Analysis:
Fishers LSD at the 5% level was performed on all experiments.
Plot design was a Randomized Complete Block (RCB) with 3,4, or 5 reps.

Activated Carbon:
An activated carbon/vermiculite safening system was used on some seeded crops (tomato). 1 lb. activated carbon was mixed with each cubic foot of vermiculite. This mixture was then used to fill the seed furrow. One ft^3 covers approximately 600 ft. of row.

Spray Additives:
Some postemergence applications were with crop oil concentrate (C.O.C.) or a nonionic surfactant (X-77).

Appreciation is given to the following people for their assistance in conducting these research studies:

Ms. Karen L. Hale - Research Associate
Mr. Ken Scaife - Farm Superintendent, Columbus
Mr. Richard Hassell - Branch Manager, Celeryville
Mr. Chuck Willer - Branch Manager, Fremont

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1990 Rainfall - Lane Avenue Farm - Columbus

DAY	MAY	JUNE	JULY	AUGUST	SEPT
1					
2					
3	0.11	0.2			
4	1.44	0.15		0.62	
5	0.13			0.02	
6					
7		0.65			0.58
8		1.2			
9		0.8			1.12
10	0.19		0.1		
11			0.75		
12	0.44		1.4		1.53
13	0.71		4.5	0.22	
14					0.72
15	0.43	2			
16	0.97		1.2		0.01
17	0.34				
18				0.03	0.02
19				1.76	0.21
20	0.34				
21		0.05	0.85	0.37	0.12
22			2.35		0.26
23		0.15	0.1		0.04
24					
25	0.33				
26	0.54				
27					
28	0.86			0.08	
29	0.18			0.06	0.03
30		0.2			0.5
31					
TOTAL	7.01	5.4	11.25	3.16	5.14

1990 Rainfall - VEGETABLE CROPS BRANCH - FREMONT

DAY	MAY	JUNE	JULY	AUGUST	SEPT
1					
2		2.18			
3	0.06	0.38			
4	1.48			0.8	
5	0.05			0.14	
6				0.02	0.58
7		0.37			0.15
8		0.48			1.95
9			0.32		0.05
10	0.15		0.16		
11			0.88		
12	0.51		0.19	0.82	
13	0.09		0.26	0.21	
14		0.4	0.21		0.49
15	0.84				0.19
16	0.05				0.11
17				0.1	
18				0.27	0.23
19	0.04			0.11	0.14
20	0.21		0.24	0.15	
21		0.07	0.11	0.09	0.24
22		0.03	1.29	0.01	0.18
23		0.03			
24		0.13			
25	0.59				
26		0.04			
27					
28		0.54		0.02	
29					0.04
30			0.67		
31					
TOTAL	4.07	4.65	4.33	2.74	4.35

1990 Rainfall - Muck Crop Branch - Celeryville

DAY	MAY	JUNE	JULY	AUGUST	SEPT
1				0.01	
2		0.38			
3	0.16	0.28			
4	1.7			1.3	
5	0.04				
6		0.01		0.98	
7					0.71
8		1.94			0.01
9			0.45	0.01	0.74
10	0.21				0.01
11			2.03		
12	0.51		0.48		
13	0.93		0.13	1.46	0.01
14	0.01		1.16		0.64
15	0.51			0.01	
16	1.2				0.29
17	0.32				
18				0.17	
19				1.21	0.26
20	0.19	0.05	0.72		
21		0.08		0.13	0.26
22		0.6	1.24		0.03
23		0.06	0.09		0.01
24		0.3			
25	0.86				
26	0.12				
27					
28	0.12	0.46			
29	0.03				0.38
30			1.08		0.02
31					
TOTAL	6.91	4.16	7.38	5.28	3.37

TABLE 1: Chemicals Used in these Studies

TRADE NAME	COMMON NAME
ACA	United Ag Products
Alanap	Naptalam
Amiben	Chloramben
Beacon	CGA-136872
Command	Clomazone
Curbit	Ethalfluralin
Devrinol	Napropamide
Dual	Metolachlor
Fusilade 2000	Fluazifop
Gramoxone Extra	Paraquat
Lentagran	Pyridate
MON-8422	Monsanto
MON-8435	Monsanto
N-Serve 24	Nitrapyrin
Poast	Sethoxydim
Pursuit	Imazethapyr
Pyramin	Pyrazon
Ro-Neet	Cycloate
Sencor	Metribuzin
Stinger	Clopyralid
Treflan	Trifluralin

TABLE 2: Weeds Mentioned in Report

COMMON NAME	SCIENTIFIC NAME	WSSA CODE
Barnyard grass	Echinochloa crusgali	ECHCG
Black nightshade	Solanum nigrum	SOLNI
Canada thistle	Cirsium arvense	CIRAR
Common lambquarter	Chenopodium album	CHEAL
Common mallow	Malva neglecta Wallr.	MALNE
Common purslane	Portulaca oleracea	POROL
Common ragweed	Ambrosia artemisiiflora	AMBEL
Fall panicum	Panicum dichoromiflorum	PANDI
Green foxtail	Setaria viridis Beauv.	SETVI
Hairy galinsoga	Galinsoga ciliata	GASCI
Johnsongrass	Sorghum halepense	SORHA
Knotweed	Polygonum aviculare	POLAV
Ladysthumb smartweed	Polygonum persicaria	POLPE
Large crabgrass	Digitaria sanguinalis	DIGSA
Livid amaranth	Amaranthus lividis	AMALI
Love grass	Eragristus pilosa	AMACH
Shepardspurse	Capsella bursa-pastoris	CAPBP
Smooth pigweed	Amaranthus retroflexus	AMARE
Velvetleaf	Abutilon theophraste	ABUTH
Venice mallow	Hibiscus trionum	HIBTR
Witchgrass	Panicum capillare	PANCA
Yellow foxtail	Setaria lutescens	SETLU
Yellow nutsedge	Pyperus esulentus	CYPES

HERBICIDE/VEGETABLE FIELD PLOT STUDIES 1990

BEETS POSTEMERGENCE WEED CONTROL STUDY:

All treatment plots received a preemergence treatment of 3.00 lbs. ai/A Ro-Neet before planting. The first planting of beets was washed out by heavy rains. Beets were reseeded into the same plot area. Ro-Neet was not reapplied. Stinger at 0.125 and 0.25 lbs. ai/A and Pyramin at 3.675 lbs. ai/A was safe on beets but did not control common mallow or large crabgrass and only set back common purslane. Combining Stinger and Pyramin did not improve efficacy. Yields were similar to the control.

CABBAGE POSTEMERGENCE WEED CONTROL STUDY:

Pursuit at 0.032 lbs. ai/A + X-77 severely injured the cabbage plants. Yields in the Pursuit plots were zero. Lentagran at 0.45, 0.67, and 0.90 lbs. ai/A and Stinger at 0.125, 0.25, and 1.88 lbs. ai/A provided good crop safety and yields were competitive with control plots. Weed control was moderate. Combining Lentagran with Fusilade improved efficacy of grasses. Yields compared well with controls.

CELERY/PURSUIT POSTEMERGENCE STUDY

Pursuit at 0.024, 0.032, 0.064, and 0.094 lbs. ai/A was applied, postemergent, with and without surfactant to celery. Crop injury was in the form of meristem damage. Zero to 36% crop injury was noted in treatments without surfactant and 40-50% crop injury was noted in treatments with surfactant. Crop injury progressed as the crop matured. Yields in most of the treatments were significantly reduced.

CELERY POSTEMERGENCE WEED CONTROL STUDY:

Stinger at 0.125 and 0.25 lbs. ai/A injured plants 35% and 70%, respectively. Crop injury in the form of yellowish green color, petioles were laying down and twisted two weeks after herbicide application. At harvest, crop injury was not significant and yields were comparable.

COLLARDS/FUSILADE 2000/IR-4:

This was an IR-4 residue project. Crop phytoxicity, in the form of stunting, was noted during the second rating period. Broadleaf pressure was heavy at first rating period which may have adversely affected crop growth. No other form of crop injury was noted.

CUCUMBER POSTEMERGENCE WEED CONTROL STUDY:

Stinger at 0.125 and 0.25 lbs. ai/A caused considerable plant injury. The observed injury was severe cupping of the leaves and twisted stems. Stinger treatments were applied nine days before the first harvest. At first harvest, yields of the treated plots were significantly larger than yields of the control plots. However, after multiple harvests, there was no significant yield difference between treated and control plots.

CUCUMBER PREEMERGENCE WEED CONTROL STUDY:

Alanap at 2.00 lbs. ai/A provided poor preemergence weed control. Command at 0.375 lbs. ai /A and Curbit at 1.5 and 3.0 lbs. ai/A provided excellent weed control. No crop injury was observed in any of the treatments. Five harvests were taken and total yields were similar.

CUCURBIT TOLERANCE TO CURBIT:

This study was a crop phytotoxicity study. Crop phytotoxicity ratings were taken at crop emergence and 5 weeks after crop emergence. No visible crop injury was noted at either rating period. Yields were not taken.

LEAF LETTUCE/NITRAPYRIN STUDY:

This study was designed to evaluate lettuce tolerance to nitrapyrin (a nitrification inhibitor). Nitrapyrin at a rate of 0.5 lbs. ai/A increased yields significantly. No plant injury was observed.

LETTUCE PREEMERGENCE WEED CONTROL STUDY:

MON-8422 and MON-8435 , each applied at 2.0 lbs. ai/A and 4 lbs. ai/A, injured plants 97-99%. No yields were taken due to complete crop death.

LETTUCE/ENDIVE/PURSUIT STUDY:

Pursuit treatments 0.024 and 0.032 lbs ai/A, applied post-emergence, provided poor weed control. Pursuit at 0.064 and 0.094 lbs ai/A held common purslane at the 1"-3" stage and slowed the growth of red root pigweed, ladysthumb smartweed, fall panicum, and barnyard grass. The use of crop oil concentrate with Pursuit improved weed control at all rates. Crop injury, in the form of stunting, was observed 10 days after herbicide treatment. However, this injury was outgrown by harvest.

PARSLEY/PURSUIT POST STUDY:

Thirty percent crop injury was noted at 0.024 lbs. ai/A of Pursuit. All other rates of Pursuit caused 55-95% crop injury. Yields were not taken due to poor crop growth.

PEPPER/DEVRINOL APPLICATION STUDY:

This was a herbicide application study. Devrinol at 2.00 lbs. ai/A was applied: (1) preemergence and mechanically incorporated 1/2""-1"" deep and (2) postplant and incorporated by 1/2" irrigation. Weed control, in both treatments, was similar and considered to be excellent.

POPCORN VARIETAL RESPONSE STUDY TO ACA:

There was no apparent growth stimulation to the crop at any time during the season. Yield results did not indicate significant differences between either of the treatments for any of the varieties tested.

RADISH/POAST STUDY:

At the time of herbicide application, radishes were in the cotyledon stage and no weeds were present in the test or control plots. Test plot yields were comparable with control plot yields.

SPINACH/PURSUIT POST STUDY:

Spinach has no tolerance for Pursuit. All herbicide treatments injured plants 85-95% except Pursuit at 0.024 lbs. ai/A, which injured plants 50%. No yields were taken.

SWEET CORN/BEACON TOLERANCE STUDY:

Phytotoxicity: Plant injury from preemergence applications of Beacon was in the form of plant stunting. At a rate of 0.036 lbs. ai/A and 0.072 lbs.ai/A applied preemergence to the crop, plant phytotoxicity ranged from 37-60% and 67-92%, respectively. Crop injury varied with the various cultivars.

Plant Emergence: Beacon at the rate of 0.072 lbs. ai/A affected plant emergence of the sweet corn cultivar Snowbelle. Plant emergence of Upmost and Flavor King was poor in all three treatments, however these varieties have been shown to be weak germinators. Plant emergence of the other varieties was not affected by Beacon.

Corn yields were not taken due to the number of different corn varieties used in the study and lack of proper pollination.

TOMATO PREEMERGENCE WEED CONTROL STUDY:

All preemergence herbicide treatments, except Sonalan, gave acceptable broadleaf and grass weed control. Sonalan at 2.00 lbs. ai/A applied preemergence gave poor weed control. However, when Sonalan was incorporated into the soil, weed control was very acceptable. Yields for all treatments were similar and acceptable.

TOMATO POSTEMERGENCE WEED CONTROL STUDY:

Lentagran was phytotoxic to the tomato plants at all rates tested. Injury increased with increasing rates. Crop injury was reduced when Lentagran was tank mixed with Fusilade 2000. Crop injury was outgrown by the end of the season and yields were not affected. Weed control was poor for most weed species present.

TITLE: BEETS POSTEMERGENCE WEED CONTROL STUDY

LOCATION: COLUMBUS
PERSONNEL: S.F. GORSKI, K.L. HALE, K. SCAIFE

PLOT INFORMATION:
- SOIL TYPE: BROOKSTON SILTY CLAY LOAM, 2% O.M., pH 6.5
- CULTIVAR: CROSBY GREEN TOP

- DATE PLANTED: JUNE 25, 1990
- RATING DATE: AUGUST 17, 1990
- HARVEST DATE: OCTOBER 3, 1990
- PLOT SIZE: 25 FT. X 5 FT.
- PLOT DESIGN: RCB w/ 4 REPS

HERBICIDE APPLICATION DATA:
- DATE: AUG 3
- TIME OF DAY: 1;30 pm
- TYPE: POST
- SOIL SURFACE: DRY
- SOIL TEMP: 82 F
- RELATIVE HUMIDITY: 66%
- WEATHER:
  - WIND, mph: CALM
  - SKY COVER: CLEAR
  - AIR TEMP: 89 F
- GROWTH STAGE:
  - CROP: 2-8 LEAF
  - WEED: POROL 1-3"TALL; MALNE 1-3"TALL; AMARE 1-3"TALL

HERBICIDE APPLICATION EQUIPMENT:
- SPRAYER: CO2 BACKBACK
- GPA: 29.5
- PSI: 30
- TIPS: 8002
- HEIGHT: 18"
- NOZZLE SPACING: 18"

INCORPORATION EQUIPMENT: NONE

Ohio State Univ. Dept. Horticulture
BEETS POSTEMERGENCE WEED CONTROL STUDY
Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	% CONTROL 8/17/90 DIGSA	MALNE	POROL	GASCI	PHYTO % INJURY 8/17/90	YIELD (lbs)
CONTROL					0.0	0.0	0.0	0.0	0.0	7.5
HAND WEEDED					100.0	100.0	100.0	100.0	0.0	22.8
RO-NEET	6.00	EC	3.00	PPI	0.0	0.0	0.0	0.0	0.0	21.5
RO-NEET	6.00	EC	3.00	PPI	0.0	0.0	40.0	100.0	0.0	24.0
STINGER	3.00	EC	0.125	POST						
RO-NEET	6.00	EC	3.00	PPI	7.5	0.0	50.0	100.0	0.0	23.5
STINGER	3.00	EC	0.25	POST						
RO-NEET	6.00	EC	3.00	PPI	0.0	0.0	21.3	56.3	0.0	24.8
PYRAMIN	4.20	F	3.675	POST						
RO-NEET	6.00	EC	3.00	PPI	0.0	0.0	51.3	100.0	0.0	27.8
STINGER	3.00	EC	0.125	POST						
PYRAMIN	4.20	F	3.00	POST						
LSD (.05)	=				8.4	0	15.3	24.0	0	7.2
Standard Dev.	=				5.6694	0	10.269	16.137	0	4.868
CV	=				36.92	0	27.38	24.76	0	22.46

Ohio State Univ. Dept. Horticulture
Conducted by Dr. Stanley F. Gorski

TITLE: CABBAGE POSTEMERGENCE WEED CONTROL STUDY

LOCATION: FREMONT
PERSONNEL: CHUCK WILLER

PLOT INFORMATION:
- SOIL TYPE: SANDY LOAM, 3% O.M.
- CULTIVAR: TITAN 90

- DATE PLANTED: MAY 9, 1990
- RATING DATE: JUNE 19, 1990
- HARVEST DATE: AUGUST 21, 1990
- PLOT SIZE: 30 FT. X 5 FT.
- PLOT DESIGN: RCB W/ 4 REPS

HERBICIDE APPLICATION DATA:
- DATE: JUNE 12
- TIME OF DAY: 1:00 pm
- TYPE: POST
- SOIL SURFACE: DRY
- SOIL TEMP: 65 F
- RELATIVE HUMIDITY: 55 %
- WEATHER:
  - WIND, mph: 2-5
  - SKY COVER: CLOUDY
  - AIR TEMP: 72 F
- GROWTH STAGE:
  - CROP: 6 TRUE LEAVES
  - WEED: 1-3"TALL POROL AMARE CHEAL

HERBICIDE APPLICATION EQUIPMENT:
- SPRAYER: CO2 BACKPACK SPRAYER
- GPA: 29.5
- PSI: 30
- TIPS: 8002
- HEIGHT: 18"
- NOZZLE SPACING: 18"

INCORPORATION EQUIPMENT: NONE

Ohio State Univ. Dept. Horticulture
CABBAGE POSTEMERGENCE WEED CONTROL STUDY
Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER

TREATMENT NAME	AI #/gal	FD	RATE	RATE UNIT	GROW STGE	-% WEED CONTROL- 6/19/90 POROL	AMARE	CHEAL	PANDI	CABBAGE PHYTO %INJURY 6/19/90	YIELD MARKET No. 8/21/90	(lbs.)
WEEDY						0.0	0.0	0.0	0.0	0.0	16.3	120.85
HAND WEEDED						100.0	100.0	100.0	100.0	0.0	17.5	146.57
PURSUIT	2.00	EC	0.032	lb/A	POST	91.3	99.0	52.5	85.0	81.3	0.0	0.00
X-77			0.25	% v/v	POST							
LENTAGRAN	45.0	WP	0.45	lb/A	POST	18.8	99.0	25.0	0.0	0.0	17.5	139.45
LENTAGRAN	45.0	WP	0.67	lb/A	POST	56.3	99.0	63.8	0.0	0.0	18.0	167.15
LENTAGRAN	45.0	WP	0.90	lb/A	POST	43.8	99.0	77.5	0.0	0.0	18.8	163.30
LENTAGRAN	45.0	WP	0.45	lb/A	POST	21.3	93.0	77.5	99.0	0.0	17.8	159.57
FUSILADE2000	1.00	EC	0.20	lb/A	POST							
STINGER	3.00	EC	0.125	lb/A	POST	20.0	98.0	22.5	0.0	0.0	15.8	123.30
STINGER	3.00	EC	0.25	lb/A	POST	12.5	78.3	12.5	0.0	0.0	17.8	137.85
STINGER	3.00	EC	1.88	lb/A	POST	88.8	80.8	75.0	0.0	0.0	18.0	143.75
LSD (.05)	=					24.8	23.2	27.1	1.9	3.9	2.8	32.18
Standard Dev.	=					17.089	15.98	18.705	1.291	2.7003	1.9386	22.181
CV	=					37.77	18.89	36.95	4.55	33.23	12.33	17.04

Ohio State Univ. Dept. Horticulture
CELERY/PURSUIT POST STUDY
Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICHARD HASSELL

TITLE:	CELERY/PURSUIT POST STUDY
LOCATION:	CELERYVILLE
PERSONNEL:	S.F. GORSKI, K.L. HALE, R. HASSELL

PLOT INFORMATION:

SOIL TYPE:	CARILISLE MUCK, 75% O.M., pH 5.3
CULTIVAR:	PICADOR
DATE PLANTED:	MAY 23, 1990
RATING DATE:	AUG 2, 1990
HARVEST DATE:	SEPT 19, 1990
PLOT SIZE:	18 ft. X 3 ft.
PLOT DESIGN:	RCB w/ 4 REPS

HERBICIDE APPLICATION DATA:

DATE:	JULY 17
TIME OF DAY:	10:30 am
TYPE:	POST
SOIL SURFACE:	DRY
SOIL TEMP:	86 F
RELATIVE HUMIDITY:	69%
WEATHER:	
WIND, mph:	5
SKY COVER:	P CLOUDY
AIR TEMP:	90 F
GROWTH STAGE:	
CROP:	8-12" TALL
WEED:	NOT PRESENT

HERBICIDE APPLICATION EQUIPMENT:

SPRAYER:	CO2 BACKPACK SPRAYER
GPA:	29.5
PSI:	30
TIPS:	8002
HEIGHT:	18"
NOZZLE SPACING:	18"

INCORPORATION EQUIPMENT: NONE

Ohio State Univ. Dept. Horticulture
CELERY/PURSUIT POST STUDY
Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICHARD HASSELL

TREATMENT NAME	AI #/gal	FD	RATE	RATE UNIT	GROW STGE	CELERY % INJURY 8/2/90	CELERY YIELD (lbs) per 18ft 9/18/90
WEEDY						0.0	23.73
HAND WEEDED						0.0	54.75
PURSUIT	2	EC	0.024	lb/A	POST	0.0	36.85
PURSUIT	2	EC	0.032	lb/A	POST	8.8	28.55
PURSUIT	2	EC	0.064	lb/A	POST	21.3	30.25
PURSUIT	2	EC	0.094	lb/A	POST	31.3	19.38
PURSUIT X-77	2	EC	0.024 0.25	lb/A % v/v	POST	36.3	18.00
PURSUIT X-77	2	EC	0.032 0.25	lb/A % v/v	POST	40.0	6.30
PURSUIT X-77	2	EC	0.064 0.25	lb/A % v/v	POST	42.5	3.50
PURSUIT X-77	2	EC	0.094 0.25	lb/A % v/v	POST	47.5	0.88
LSD (.05) =						8.0	14.50
Standard Dev.=						5.5193	9.9522
CV =						24.26	44.79

Ohio State Univ. Dept. Horticulture
CELERY POSTEMERGENCE WEED CONTROL STUDY
Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICH HASSELL

TITLE:	CELERY POSTEMERGENCE WEED CONTROL STUDY
LOCATION:	CELERYVILLE
PERSONNEL:	S.F. GORSKI, K.L. HALE, R. HASSELL

PLOT INFORMATION:

SOIL TYPE:	CARILISLE MUCK, 75% O.M., pH 5.3
CULTIVAR:	PICADOR
DATE PLANTED:	MAY 23, 1990
RATING DATE:	AUG 2, 1990
HARVEST DATE:	SEPT 19, 1990
PLOT SIZE:	18 ft. X 3 ft.
PLOT DESIGN:	RCB w/ 4 REPS

HERBICIDE APPLICATION DATA:

DATE:	JULY 17
TIME OF DAY:	10:30 am
TYPE:	POST
SOIL SURFACE:	DRY
SOIL TEMP:	86 F
RELATIVE HUMIDITY:	69%
WEATHER:	
WIND, mph:	5
SKY COVER:	P CLOUDY
AIR TEMP:	90 F
GROWTH STAGE:	
CROP:	8-12" TALL
WEED:	NOT PRESENT

HERBICIDE APPLICATION EQUIPMENT:

SPRAYER:	CO2 BACKPACK SPRAYER
GPA:	29.5
PSI:	30
TIPS:	8002
HEIGHT:	18"
NOZZLE SPACING:	18"

INCORPORATION EQUIPMENT: NONE

Ohio State Univ. Dept. Horticulture
CELERY POSTEMERGENCE WEED CONTROL STUDY
Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICH HASSELL
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD RATE	GROW STGE	CELERY % INJURY 8/2/90	CELERY YIELD (lbs) per 10ft 9/19/90
CONTROL				0.0	22.95
STINGER	3.00	EC 0.125	POST	42.5	17.02
STINGER	3.00	EC 0.25	POST	58.8	15.18
LSD (.05)	=			33.4	7.61
Standard Dev.	=			19.311	4.3992
CV	=			57.22	23.93

Ohio State Univ. Dept. Horticulture
Conducted by Dr. Stanley F. Gorski

TITLE: COLLARDS/FUSILADE/IR-4

LOCATION: COLUMBUS
PERSONNEL: S.F. GORSKI

PLOT INFORMATION:
- SOIL TYPE: BROOKSTON SILTY CLAY LOAM, 2% O.M., pH 6.5
- CULTIVAR: VATES

- DATE PLANTED: MAY 23, 1990
- RATING DATE: JULY 9, 1990; JULY 31, 1990
- HARVEST DATE: MULTIPLE HARVESTS
- PLOT SIZE: 25 ft. X 5 ft.
- PLOT DESIGN: RCB w/ 4 REPS

HERBICIDE APPLICATION DATA:

DATE:	MAY 23	JUNE 26	JULY 15
TIME OF DAY:	2:30 pm	11:30 am	2:00 pm
TYPE:	PRE	POST	POST
SOIL SURFACE:	MODERATE	DRY	MOIST
SOIL TEMP:	60 F	70 F	82 F
RELATIVE HUMIDITY:	50%	45%	62%
WEATHER:			
WIND, mph:	3-5	3-5	5
SKY COVER:	P.CLOUDY	CLEAR	P.CLOUDY
AIR TEMP:	65 F	79 F	83 F
GROWTH STAGE:			
CROP:	PRE		
WEED:	PRE		

HERBICIDE APPLICATION EQUIPMENT:
- SPRAYER: CO2 BACKPACK SPRAYER
- GPA: 29.5
- PSI: 30
- TIPS: 8002
- HEIGHT: 18"
- NOZZLE SPACING: 18"

INCORPORATION EQUIPMENT: NONE

Ohio State Univ. Dept. Horticulture
COLLARDS/FUSILADE 2000/IR-4
Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE

TREATMENT NAME	AI #/gal	FD	RATE	UNIT	GROW STGE	---CROP PHYTO--- % INJURY 7/9/90	7/31/90	TOTAL YIELD (lbs.)
WEEDY						0.0	0.0	9.27
HAND WEEDED						0.0	0.0	83.43
FUSILADE 2000	1.00	EC	.1875	lb/A	POST 45DBH	0.0	27.5	65.43
FUSILADE 2000	1.00	EC	.1875	lb/A	POST 30DBH			
COC			1.0	% v/v				
AMIBEN	75.0	DF	2.00	lb/A	PRE			
FUSILADE 2000	1.00	EC	0.375	lb/A	POST 45DBH	0.0	27.5	72.53
FUSILADE 2000	1.00	EC	0.375	lb/A	POST 30DBH			
COC			1.0	% v/v				
AMIBEN	75.0	DF	2.00	lb/A	PRE			
LSD (.05) =						0	3.3	9.91
Standard Dev.=						0	2.0412	6.198
CV =						0	14.85	10.75

Ohio State Univ. Dept. Horticulture
CUCUMBER POSTEMERGENCE WEED CONTROL STUDY
Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER

TITLE:	CUCUMBER POSTEMERGENCE WEED CONTROL STUDY
LOCATION:	FREMONT
PERSONNEL:	S.F. GORSKI, K.L. HALE, C. WILLER

PLOT INFORMATION:

SOIL TYPE:	SANDY LOAM, 3% O.M.
CULTIVAR:	CALYPSO
DATE PLANTED:	JUNE 12, 1990
RATING DATE:	JULY 23, 1990; JULY 30,1990
HARVEST DATE:	MULTIPLE HARVESTS
PLOT SIZE:	30 FT. X 5 FT.
PLOT DESIGN:	RCB w/ 4 REPS

HERBICIDE APPLICATION DATA:

DATE:	JULY 15
TIME OF DAY:	11:00 am
TYPE:	POST
SOIL SURFACE:	MOIST
SOIL TEMP:	80 F
RELATIVE HUMIDITY:	69%
WEATHER:	
WIND, mph:	5
SKY COVER:	SUNNY
AIR TEMP:	81 F
GROWTH STAGE:	
CROP:	4 WEEKS OLD
WEED:	POROL PANDI DIGSA AMARE

HERBICIDE APPLICATION EQUIPMENT:

SPRAYER:	
GPA:	
PSI:	
TIPS:	
HEIGHT:	
NOZZLE SPACING:	

INCORPORATION EQUIPMENT:

Ohio State Univ. Dept. Horticulture
CUCUMBER POSTEMERGENCE WEED CONTROL STUDY
Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD	RATE	GROW STGE	---CROP PHYTO--- %INJURY 7/23/90	7/30/90	FIRST HARVEST (lbs.)	TOTAL YIELD (lbs.)
STINGER	3.00	EC	0.125	POST	7.5	23.8	6.93	47.58
STINGER	3.00	EC	0.25	POST	23.8	38.8	6.45	43.58
CONTROL					0.0	0.0	0.83	43.93
LSD (.05)	=				5.9	9.0	1.43	9.82
Standard Dev.	=				3.4359	5.2041	.82849	5.6774
CV	=				32.98	24.98	17.50	12.61

Ohio State Univ. Dept. Horticulture
CUCUMBER PREEMERGENCE WEED CONTROL STUDY
Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER

TITLE: CUCUMBER PREEMERGENCE WEED CONTROL STUDY

LOCATION: FREMONT
PERSONNEL: S.F. GORSKI, K.L. HALE, C. WILLER

PLOT INFORMATION:
- SOIL TYPE: SANDY LOAM, 3% O.M.
- CULTIVAR: CALYPSO

- DATE PLANTED: JUNE 12, 1990
- RATING DATE: JULY 15, 1990
- HARVEST DATE: MULTIPLE HARVESTS
- PLOT SIZE: 30 FT. X 5 FT.
- PLOT DESIGN: RCB w/ 4 REPS

HERBICIDE APPLICATION DATA:
- DATE: JUNE 12
- TIME OF DAY: 2:00 pm
- TYPE: PRE
- SOIL SURFACE: DRY
- SOIL TEMP: 65 F
- RELATIVE HUMIDITY: 55%
- WEATHER:
  - WIND, mph: 5
  - SKY COVER: CLOUDY
  - AIR TEMP: 72 F
- GROWTH STAGE:
  - CROP: PRE

  - WEED: PRE

HERBICIDE APPLICATION EQUIPMENT:
- SPRAYER: CO2 BACKPACK SPRAYER
- GPA: 29.5
- PSI: 30
- TIPS: 8002
- HEIGHT: 18"
- NOZZLE SPACING: 18"

INCORPORATION EQUIPMENT: NONE

Ohio State Univ. Dept. Horticulture
CUCUMBER PREEMERGENCE WEED CONTROL STUDY
Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD RATE	GROW STGE	% CONTROL 7/15/90 POROL	% CONTROL 7/15/90 AMARE	% CONTROL 7/15/90 PANDI	% CONTROL 7/15/90 DIGSA	FIRST HARVEST 7/24/90 (lbs.)	TOTAL YIELD (lbs.)
WEEDY				0.0	0.0	0.0	0.0	0.57	38.88
HAND WEEDED				100.0	100.0	100.0	100.0	0.88	43.15
ALANAP	2.00	EC 2.00	PRE	52.5	73.3	17.5	17.5	0.38	41.80
COMMAND	4.00	EC 0.375	PPI	96.8	83.5	89.8	76.3	0.60	38.45
CURBIT	3.00	EC 1.5	PRE	93.0	99.0	83.8	91.0	0.63	37.80
CURBIT	3.00	EC 3.0	PRE	81.3	97.0	82.3	88.8	0.73	40.63
ALANAP CURBIT	2.00 3.00	EC 2.00 EC 1.5	PRE PRE	94.5	99.0	95.8	97.0	0.95	40.88
ALANAP CURBIT	2.00 3.00	EC 4.00 EC 1.5	PRE PRE	99.0	96.8	84.8	91.0	0.55	41.95
COMMAND CURBIT	4.00 3.00	EC 0.375 EC 1.5	PRE PRE	99.0	95.0	87.3	94.5	1.20	44.10
LSD (.05)	=			17.9	26.1	13.9	13.0	0.52	5.95
Standard Dev.	=			12.295	17.875	9.4998	8.9254	.35946	4.0801
CV	=			15.45	21.64	13.34	12.25	49.96	9.99

Ohio State Univ. Dept. Horticulture
CUCURBIT TOLERANCE TO CURBIT
Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE

TITLE: CUCURBIT TOLERANCE TO CURBIT

LOCATION: COLUMBUS
PERSONNEL: S.F. GORSKI, K.L. HALE, K. SCAIFE

PLOT INFORMATION:
- SOIL TYPE: BROOKSTON SILTY CLAY LOAM, 2% O.M., pH 6.5
- CULTIVAR: VARIOUS, LISTED ON NEXT PAGE

- DATE PLANTED: JUNE 25, 1990
- RATING DATE: JULY 11, 1990; JULY 31, 1990
- HARVEST DATE: NO HARVEST
- PLOT SIZE: 25 ft. X 5 ft.
- PLOT DESIGN: RCB w/ 4 REPS

HERBICIDE APPLICATION DATA:
- DATE: JUNE 26
- TIME OF DAY: 10:00 am
- TYPE: PRE
- SOIL SURFACE: DRY
- SOIL TEMP: 70 F
- RELATIVE HUMIDITY: 45%
- WEATHER:
  - WIND, mph: 3-5
  - SKY COVER: CLEAR
  - AIR TEMP: 78 F
- GROWTH STAGE:
  - CROP: PRE
  - WEED: PRE

HERBICIDE APPLICATION EQUIPMENT:
- SPRAYER: CO2 BACKPACK SPRAYER
- GPA: 29.5
- PSI: 30
- TIPS: 8002
- HEIGHT: 18"
- NOZZLE SPACING: 18"

INCORPORATION EQUIPMENT: NONE

Ohio State Univ. Dept. Horticulture
CUCURBIT TOLERANCE TO CURBIT
Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD RATE	GROW STGE	7/30/90 % INJURY A	B	C	D	E	F	G
CONTROL/AMIBEN	75.0	WP 2.00	PRE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CURBIT	3.00	EC 1.50	PRE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CURBIT	3.00	EC 3.00	PRE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LSD (.05) =				0	0	0	0	0	0	0
Standard Dev.=				0	0	0	0	0	0	0
CV =				0	0	0	0	0	0	0

VARIETIES:
A. Golden Girl Squash
B. Zucchini Elite Squash
C. Waltham Butternut Squash
D. Table Ace Squash
E. Connecticut Field Pumpkin
F. Big Max Pumpkin
G. Calypso Cucumber

Ohio State Univ. Dept. Horticulture
Conducted by Dr. Stanley F. Gorski

TITLE: LEAF LETTUCE/NITRAPYRIN

LOCATION: COLUMBUS
PERSONNEL: S.F. GORSKI, K.L. HALE, K. SCAIFE

PLOT INFORMATION:
- SOIL TYPE: BROOKSTON SILTY CLAY LOAM, 2% O.M., pH 6.5
- CULTIVAR: BLACK SEEDED SIMPSON

- DATE PLANTED: MAY 23, 1990
- RATING DATE: JULY 6, 1990
- HARVEST DATE: JULY 6, 1990
- PLOT SIZE: 25 ft. X 5 ft.
- PLOT DESIGN: RCB w/ 4 REPS

HERBICIDE APPLICATION DATA:
- DATE: MAY 23
- TIME OF DAY: 1:00 pm
- TYPE: PPI
- SOIL SURFACE: MODERATE
- SOIL TEMP: 60 F
- RELATIVE HUMIDITY: 50%
- WEATHER:
  - WIND, mph: 3-5
  - SKY COVER: P.CLOUDY
  - AIR TEMP: 65 F
- GROWTH STAGE:
  - CROP: PREPLANT

  - WEED: PREEMER

HERBICIDE APPLICATION EQUIPMENT:
- SPRAYER: CO2 BACKPACK SPRAYER
- GPA: 29.5
- PSI: 30
- TIPS: 8002
- HEIGHT: 18"
- NOZZLE SPACING: 18"

INCORPORATION EQUIPMENT: ROTOTILLER, 1-2" DEEP

Ohio State Univ. Dept. Horticulture
LEAF LETTUCE/NITRAPYRIN/IR-4
Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD RATE	GROW STGE	LETTUCE YIELD LBS/25ft 7/6/90
CONTROL				11.18
N SERVE 24	24.0	EC 0.50	PREPLANT	20.38
N SERVE 24	24.0	EC 1.00	PREPLANT	17.03
LSD (.05) =				6.09
Standard Dev.=				3.5218
CV =				21.75

Ohio State Univ. Dept. Horticulture
LETTUCE PREEMERGENCE WEED CONTROL STUDY
Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICH HASSELL

TITLE: LETTUCE PREEMERGENCE WEED CONTROL STUDY

LOCATION: CELERYVILLE
PERSONNEL: S.F. GORSKI, K.L. HALE, R. HASSELL

PLOT INFORMATION:
- SOIL TYPE: CARLISLE MUCK, 75% O.M., pH 5.3
- CULTIVAR: TANYA BOSTON

- DATE PLANTED: MAY 23, 1990
- RATING DATE: JUNE 19, 1990
- HARVEST DATE: NO HARVEST
- PLOT SIZE: 18 FT. X 5 FT.
- PLOT DESIGN: RCB w/ 4 REPS

HERBICIDE APPLICATION DATA:
- DATE: MAY 24
- TIME OF DAY: 10:30 am
- TYPE: PRE
- SOIL SURFACE: MODERATE
- SOIL TEMP: 65 F
- RELATIVE HUMIDITY: 64%
- WEATHER:
  - WIND, mph: CALM
  - SKY COVER: CLOUDY
  - AIR TEMP: 70 F
- GROWTH STAGE:
  - CROP: PRE

  - WEED: PRE

HERBICIDE APPLICATION EQUIPMENT:
- SPRAYER: CO2 BACKPACK SPRAYER
- GPA: 29.5
- PSI: 30
- TIPS: 8002
- HEIGHT: 18"
- NOZZLE SPACING: 18"

INCORPORATION EQUIPMENT: NONE

Ohio State Univ. Dept. Horticulture
LETTUCE PREEMERGENCE WEED CONTROL STUDY
Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICH HASSELL
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD RATE	GROW STGE	6/19/90 COUNTS PER FT2 POROL	AMARE	AMALI	PANDI	LETTUCE PHYTO %CONTROL 6/19/90
WEEDY				7.5	1.3	1.3	1.8	0.0
HAND WEEDED				0.0	0.0	0.0	0.0	0.0
MON-8422	4.00	EC 2.00	PRE	0.0	0.0	0.0	0.0	97.0
MON-8435	7.5	EC 2.00	PRE	0.0	0.0	0.0	0.0	98.5
MON-8422	4.00	EC 4.00	PRE	0.0	0.0	0.0	0.0	99.0
MON-8435	7.5	EC 4.00	PRE	0.0	0.0	0.0	0.0	99.0
LSD (.05)	=			0.8	0.3	0.3	0.3	1.5
Standard Dev.	=			.52704	.20412	.20412	.20412	.9831
CV	=			42.16	97.98	97.98	69.99	1.50

Ohio State Univ. Dept. Horticulture
Conducted by Dr. Stanley F. Gorski

TITLE: LETTUCE-ENDIVE/PURSUIT STUDY

LOCATION: CELERYVILLE
PERSONNEL: S.F. GORSKI, K.L. HALE, R. HASSELL

PLOT INFORMATION:
- SOIL TYPE: CARLISLE MUCK, 75% O.M., pH 5.3
- CULTIVAR: leaf: TIARA; boston: TANIA; endive: SALAD

- DATE PLANTED: MAY 23, 1990
- RATING DATE: JULY 5, 1990
- HARVEST DATE: JULY 19,1990
- PLOT SIZE: 18 ft. X 5 ft.
- PLOT DESIGN: RCB w/ 4 REPS

HERBICIDE APPLICATION DATA:
- DATE: JUNE 25
- TIME OF DAY: 2:00 pm
- TYPE: POST
- SOIL SURFACE: DRY
- SOIL TEMP: 80 F
- RELATIVE HUMIDITY: 42%
- WEATHER:
  - WIND, mph: 3-4
  - SKY COVER: CLEAR
  - AIR TEMP: 78 F
- GROWTH STAGE:
  - CROP: 3-4"TALL
  - WEED: POROL AMALI PANDI AMARE POLPE CHEAL — WEEDS 1"-2" TALL

HERBICIDE APPLICATION EQUIPMENT:
- SPRAYER: CO2 BACKPACK SPRAYER
- GPA: 29.5
- PSI: 30
- TIPS: 8002
- HEIGHT: 18"
- NOZZLE SPACING: 18"

INCORPORATION EQUIPMENT: NONE

Ohio State Univ. Dept. Horticulture
LETTUCE/ENDIVE/PURSUIT POST STUDY
Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICHARD HASSELL

TREATMENT NAME	AI #/gal	FD	RATE	RATE UNIT	GROW STGE	%INJURY 7/5/90 LEAF	%INJURY 7/5/90 BOSTON	%INJURY 7/5/90 ENDIVE	YIELD lbs. per 10 ft. 7/19/90 LEAF	YIELD lbs. per 10 ft. 7/19/90 BOSTON	YIELD lbs. per 10 ft. 7/19/90 ENDIVE
WEEDY						0.0	0.0	0.0	8.80	7.43	12.05
HAND WEEDED						0.0	0.0	0.0	10.43	11.02	11.43
PURSUIT	2	EC	0.024	lb/A	POST	0.0	0.0	0.0	11.75	10.13	13.00
PURSUIT	2	EC	0.032	lb/A	POST	17.5	17.5	7.5	7.63	7.60	10.38
PURSUIT	2	EC	0.064	lb/A	POST	27.5	22.5	20.0	7.93	8.38	11.23
PURSUIT	2	EC	0.094	lb/A	POST	27.5	25.0	22.5	7.82	7.80	11.77
PURSUIT	2	EC	0.024	lb/A	POST	20.0	25.0	22.5	7.82	8.52	12.80
X-77			0.25	% v/v							
PURSUIT	2	EC	0.032	lb/A	POST	22.5	20.0	10.0	9.20	9.33	12.68
X-77			0.25	% v/v							
PURSUIT	2	EC	0.064	lb/A	POST	42.5	25.0	27.5	8.27	8.73	14.10
X-77			0.25	% v/v							
PURSUIT	2	EC	0.094	lb/A	POST	40.0	40.0	22.5	10.23	8.80	12.20
X-77			0.25	% v/v							
LSD (.05) =						22.4	22.0	13.4	2.41	1.76	2.33
Standard Dev.=						15.405	15.153	9.2044	1.6584	1.212	1.606
CV =						78.00	86.59	69.47	18.45	13.82	13.20

Ohio State Univ. Dept. Horticulture
PARSLEY/PURSUIT POST STUDY
Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICHARD HASSELL

TITLE:	PARSLEY/PURSUIT POST STUDY
LOCATION:	CELERYVILLE
PERSONNEL:	S.F. GORSKI, K.L. HALE, R. HASSELL
PLOT INFORMATION:	
SOIL TYPE:	CARLISLE MUCK, 75% O.M., pH 5.3
CULTIVAR:	FOREST GREEN
DATE PLANTED:	MAY 23, 1990
RATING DATE:	JULY 5, 1990; JULY 19, 1990
HARVEST DATE:	NO HARVEST
PLOT SIZE:	18 ft. X 5 ft.
PLOT DESIGN:	RCB w/ 4 REPS

HERBICIDE APPLICATION DATA:

DATE:	JUNE 25	
TIME OF DAY:	2:00 pm	
TYPE:	POST	
SOIL SURFACE:	DRY	
SOIL TEMP:	80 F	
RELATIVE HUMIDITY:	42%	
WEATHER:		
WIND, mph:	3-4	
SKY COVER:	CLEAR	
AIR TEMP:	78 F	
GROWTH STAGE:		
CROP:	3-4"TALL	
WEED:	POROL	WEEDS
	AMALI	1"-2"
	PANDI	TALL
	AMARE	
	POLPE	
	CHEAL	

HERBICIDE APPLICATION EQUIPMENT:

SPRAYER:	CO2 BACKPACK SPRAYER
GPA:	29.5
PSI:	30
TIPS:	8002
HEIGHT:	18"
NOZZLE SPACING:	18"

INCORPORATION EQUIPMENT: NONE

Ohio State Univ. Dept. Horticulture
PARSLEY/PURSUIT POST STUDY
Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICHARD HASSELL

TREATMENT NAME	AI #/gal	FD	RATE	RATE UNIT	GROW STGE	%INJURY 7/5/90	%INJURY 7/19/90
WEEDY						0.0	0.0
HAND WEEDED						0.0	0.0
PURSUIT	2	EC	0.024	lb/A	POST	30.0	30.0
PURSUIT	2	EC	0.032	lb/A	POST	40.0	57.5
PURSUIT	2	EC	0.064	lb/A	POST	50.0	78.8
PURSUIT	2	EC	0.094	lb/A	POST	55.0	82.5
PURSUIT	2	EC	0.024	lb/A	POST	60.0	81.3
X-77			0.25	% v/v			
PURSUIT	2	EC	0.032	lb/A	POST	60.0	86.3
X-77			0.25	% v/v			
PURSUIT	2	EC	0.064	lb/A	POST	65.0	91.3
X-77			0.25	% v/v			
PURSUIT	2	EC	0.094	lb/A	POST	66.3	94.3
X-77			0.25	% v/v			
LSD (.05) =						13.2	5.9
Standard Dev.=						9.0918	4.0463
CV =						21.33	6.72

Ohio State Univ. Dept. Horticulture
PEPPER/DEVRINOL APPLICATION STUDY
Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE

TITLE:	PEPPER/DEVRINOL APPLICATION STUDY
LOCATION:	COLUMBUS
PERSONNEL:	S.F. GORSKI, K.L. HALE, K. SCAIFE

PLOT INFORMATION:

SOIL TYPE:	BROOKSTON SILTY CLAY LOAM, 2% O.M., pH 6.5
CULTIVAR:	ARGO
DATE PLANTED:	TRANSPLANTS, MAY 29, 1990
RATING DATE:	JUNE 26, 1990
HARVEST DATE:	MULTIPLE HARVESTS
PLOT SIZE:	25 ft. X 5 ft.
PLOT DESIGN:	RCB w/ 4 REPS

HERBICIDE APPLICATION DATA:

DATE:	JUNE 29	JUNE 29
TIME OF DAY:	1:30 pm	3:00 pm
TYPE:	PPI	POST
SOIL SURFACE:	MODERATE	MODERATE
SOIL TEMP:	60 F	60 F
RELATIVE HUMIDITY:	50%	50%
WEATHER:		
WIND, mph:	3-5	3-5
SKY COVER:	P.CLOUDY	P.CLOUDY
AIR TEMP:	65 F	65 F
GROWTH STAGE:		
CROP:	PRE	POST
WEED:	PRE	PRE

HERBICIDE APPLICATION EQUIPMENT:

SPRAYER:	CO2 BACKPACK SPRAYER
GPA:	29.5
PSI:	30
TIPS:	8002
HEIGHT:	18"
NOZZLE SPACING:	18"

INCORPORATION EQUIPMENT:TRT 3: ROTOTILLER, 1/2"-1" DEEP; TRT 4: 1/2'

Ohio State Univ. Dept. Horticulture
PEPPER/DEVRINOL APPLICATION STUDY
Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD RATE	GROW STGE	%CONTROL 6/26/90 ECHCG	PANDI	AMARE	CHEAL	POROL	YIELD MARKET No.	TOTAL (lbs.)
WEEDY				0.0	0.0	0.0	0.0	0.0	6.5	1.43
HAND WEEDED				100.0	100.0	100.0	100.0	100.0	74.0	19.00
DEVRINOL	50.0	DF 2.00	PPI	99.0	99.0	99.0	99.0	99.0	142.8	34.65
DEVRINOL IRRIG TO INCORP	50.0	DF 2.00	POSTPLANT	99.0	99.0	99.0	99.0	99.0	142.8	34.08
LSD (.05) =				0	0	0	0	0	39.1	9.78
Standard Dev.=				0	0	0	0	0	24.418	6.1129
CV =				0	0	0	0	0	26.69	27.43

Ohio State Univ. Dept. Horticulture
POPCORN VARIETAL RESPONSE TO ACA
Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE
All rates are specified as oz p/A

TREATMENT NAME	AI #/gal	FD RATE	GROW STGE	YIELD (LBS. PER 10 FT. OF ROW) A	B	C	D
UNTREATED				8.10	8.73	10.40	8.53
ACA		5.33	BAND	8.80	9.10	11.10	9.67
LSD (.05)	=			2.82	3.11	3.25	3.72
Standard Dev.	=			.80311	.8841	.92466	1.059
CV	=			9.50	9.92	8.60	11.64

A: Robust 20-60
B: Robust White
C: Robust 30-71
D: P410

SEEDED: MAY 22, 1990

FERTILIZER: 5.33 oz/A ACA was blended with 6-24-12 fertilizer and banded at planting. A single application of 1000 lbs. 15-15-15 was broadcast and plowed down prior to planting.

HERBICIDE: Dual at 2 lbs ai/A was broadcast immediately after planting.

PLOT DESIGN: Randomized complete block with 3 reps.

SUMMARY: There was no apparent growth stimulation to the crop at any time during the season. Yield results did not indicate significant differences between either of the treatments for any of the varieties tested.

Ohio State Univ. Dept. Horticulture
RADISH/POAST STUDY
Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICH HASSELL

TITLE:	RADISH/POAST STUDY
LOCATION:	CELERYVILLE
PERSONNEL:	S.F. GORSKI, K.L. HALE, R. HASSELL

PLOT INFORMATION:

SOIL TYPE:	CARLISLE MUCK, 75% O.M., pH 5.3
CULTIVAR:	BELLE GLADE
DATE PLANTED:	JUNE 11, 1990
RATING DATE:	JUNE 25, 1990
HARVEST DATE:	JULY 5, 1990
PLOT SIZE:	18 ft. X 3 ft.
PLOT DESIGN:	RCB w/ 4 REPS

HERBICIDE APPLICATION DATA:

DATE:	JUNE 19
TIME OF DAY:	2:00 pm
TYPE:	POST
SOIL SURFACE:	DRY
SOIL TEMP:	70 F
RELATIVE HUMIDITY:	71%
WEATHER:	
WIND, mph:	2-3
SKY COVER:	CLOUDY
AIR TEMP:	66 F
GROWTH STAGE:	
CROP:	COTYLED.
WEED:	NOT PRESENT

HERBICIDE APPLICATION EQUIPMENT:

SPRAYER:	CO2 BACKPACK SPRAYER
GPA:	29.5
PSI:	30
TIPS:	8002
HEIGHT:	18"
NOZZLE SPACING:	18"

INCORPORATION EQUIPMENT: NONE

Ohio State Univ. Dept. Horticulture
RADISH/POAST STUDY
Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICH HASSELL

TREATMENT NAME	AI #/gal	FD RATE	RATE UNIT	GROW STGE	YIELD lbs/18ft TOPS 7/5/90	ROOTS
CONTROL					4.13	4.20
POAST	1.50	EC 0.5	lb/A	POST	3.93	4.07
C.O.C		0.50	% v/v	POST		
LSD (.05)	=				0.50	0.57
Standard Dev.	=				.22358	.25412
CV	=				5.55	6.14

Ohio State Univ. Dept. Horticulture
SPINACH/PURSUIT POST STUDY
Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICHARD HASSELL

TITLE:	SPINACH/PURSUIT POST STUDY
LOCATION:	CELERYVILLE
PERSONNEL:	S.F. GORSKI, K.L. HALE, R. HASSELL
PLOT INFORMATION:	
SOIL TYPE:	CARLISLE MUCK, 75% O.M., pH 5.3
CULTIVAR:	MELODY
DATE PLANTED:	MAY 23, 1990
RATING DATE:	JULY 5, 1990
HARVEST DATE:	NO HARVEST
PLOT SIZE:	18 ft. X 5 ft.
PLOT DESIGN:	RCB w/ 4 REPS

HERBICIDE APPLICATION DATA:

DATE:	JUNE 25
TIME OF DAY:	2:00 pm
TYPE:	POST
SOIL SURFACE:	DRY
SOIL TEMP:	80 F
RELATIVE HUMIDITY:	42%
WEATHER:	
WIND, mph:	3-4
SKY COVER:	CLEAR
AIR TEMP:	78 F
GROWTH STAGE:	
CROP:	3-4"TALL
WEED:	POROL
	AMALI
	PANDI
	AMARE
	POLPE
	CHEAL

HERBICIDE APPLICATION EQUIPMENT:

SPRAYER:	CO2 BACKPACK SPRAYER
GPA:	29.5
PSI:	30
TIPS:	8002
HEIGHT:	18"
NOZZLE SPACING:	18"

INCORPORATION EQUIPMENT: NONE

Ohio State Univ. Dept. Horticulture
SPINACH/PURSUIT POST STUDY
Conducted at CELERYVILLE by Dr. Stanley F. Gorski
with cooperator RICHARD HASSELL

TREATMENT NAME	AI #/gal	FD	RATE	RATE UNIT	GROW STGE	SPINACH PHYTO %INJURY 7/5/90
WEEDY						0.0
HAND WEEDED						0.0
PURSUIT	2	EC	0.024	lb/A	POST	48.8
PURSUIT	2	EC	0.032	lb/A	POST	86.3
PURSUIT	2	EC	0.064	lb/A	POST	85.0
PURSUIT	2	EC	0.094	lb/A	POST	88.8
PURSUIT	2	EC	0.024	lb/A	POST	91.3
X-77			0.25	% v/v		
PURSUIT	2	EC	0.032	lb/A	POST	93.8
X-77			0.25	% v/v		
PURSUIT	2	EC	0.064	lb/A	POST	94.8
X-77			0.25	% v/v		
PURSUIT	2	EC	0.094	lb/A	POST	94.3
X-77			0.25	% v/v		
LSD (.05) =						16.5
Standard Dev.=						11.382
CV =						16.67

Ohio State Univ. Dept. Horticulture
SWEET CORN/BEACON TOLERANCE STUDY
Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE

TITLE:	SWEET CORN/BEACON TOLERANCE STUDY
LOCATION:	COLUMBUS
PERSONNEL:	S.F. GORSKI, K.L. HALE, K. SCAIFE

PLOT INFORMATION:

SOIL TYPE:	BROOKSTON SILTY CLAY LOAM, 2% O.M., pH 6.5
CULTIVAR:	VARIOUS, LISTED ON NEXT PAGE
DATE PLANTED:	MAY 22, 1990
RATING DATE:	JUNE 28, 1990
HARVEST DATE:	NO HARVEST
PLOT SIZE:	25 ft. X 3 ft.
PLOT DESIGN:	RCB w/ 3 REPS

HERBICIDE APPLICATION DATA:

DATE:	JUNE 23
TIME OF DAY:	3:00 pm
TYPE:	PRE
SOIL SURFACE:	MODERATE
SOIL TEMP:	60 F
RELATIVE HUMIDITY:	50%
WEATHER:	
WIND, mph:	3-5
SKY COVER:	P.CLOUDY
AIR TEMP:	
GROWTH STAGE:	65 F
CROP:	PRE
WEED:	PRE

HERBICIDE APPLICATION EQUIPMENT:

SPRAYER:	CO2 BACKPACK SPRAYER
GPA:	29.5
PSI:	30
TIPS:	8002
HEIGHT:	18"
NOZZLE SPACING:	18"

INCORPORATION EQUIPMENT:

Ohio State Univ. Dept. Horticulture
SWEET CORN/BEACON TOLERANCE STUDY
Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD RATE	GROW STGE	6/28/90 % CROP EMERGE. A	B	C	D	E	F	G	H	I	J
DUAL	8.00	EC 2.00	PRE	85.0	88.3	81.7	51.7	75.0	86.7	86.7	67.3	86.7	80.0
BEACON	75.0	WG 0.036	PRE	78.3	78.3	61.7	71.7	78.3	86.7	83.3	50.0	96.7	65.0
BEACON	75.0	WG 0.072	PRE	85.0	75.0	36.7	63.3	71.7	71.7	75.0	47.3	81.7	83.3
LSD (.05)	=			32.9	28.0	22.7	29.9	24.5	29.6	18.5	36.9	21.2	26.4
Standard Dev.	=			14.529	12.36	10	13.176	10.801	13.07	8.1649	16.266	9.3541	11.666
CV	=			17.55	15.34	16.67	21.18	14.40	16.00	10.00	29.64	10.59	15.33

CULTIVAR CODES:
A - TOPNOTCH
B - SPARKLE SWEET
C - SNOWBELLE
D - UPMOST
E - SUPERSWEET
F - NATURAL SWEET 9000
G - GOLD NUGGETS
H - FLAVOR KING
I - FLAVOREE
J - CANDY STORE SWEET CORN

Ohio State Univ. Dept. Horticulture
SWEET CORN/BEACON TOLERANCE STUDY
Conducted at COLUMBUS by Dr. Stanley F. Gorski
with cooperator KEN SCAIFE
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD RATE	GROW STGE	6/28/90 A	B	C	D	CROP PHYTO--- % INJURY E	F	G	H	I	J
DUAL	8.00	EC 2.00	PRE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEACON	75.0	WG 0.036	PRE	36.7	36.7	56.7	43.3	56.7	56.7	56.7	59.5	35.0	60.0
BEACON	75.0	WG 0.072	PRE	66.7	75.0	85.0	76.7	85.0	83.3	88.3	92.3	68.3	76.7
LSD (.05)	=			23.9	13.6	21.0	20.7	29.5	18.5	17.3	7.5	23.9	20.0
Standard Dev.	=			10.54	6.0092	9.2796	9.1287	13.017	8.1649	7.6376	2.125	10.54	8.8191
CV	=			30.60	16.14	19.65	22.82	27.57	17.50	15.80	4.20	30.60	19.36

CULTIVAR CODES:
A - TOPNOTCH
B - SPARKLE SWEET
C - SNOWBELLE
D - UPMOST
E - SUPERSWEET
F - NATURAL SWEET 9000
G - GOLD NUGGETS
H - FLAVOR KING
I - FLAVOREE
J - CANDY STORE SWEET CORN

Ohio State Univ. Dept. Horticulture
TOMATO PREEMERGENCE WEED CONTROL STUDY
Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER

TITLE:	TOMATO PREEMERGENCE WEED CONTROL STUDY
LOCATION:	FREMONT
PERSONNEL:	S.F. GORSKI, K.L. HALE, C. WILLER

PLOT INFORMATION:

SOIL TYPE:	SANDY LOAM, 3% O.M.
CULTIVAR:	HEINZ 7150
DATE PLANTED:	MAY 22, 1990
RATING DATE:	JUNE 25, 1990
HARVEST DATE:	SEPT. 19, 1990
PLOT SIZE:	30 FT. X 5 FT.
PLOT DESIGN:	RCB w/ 3 REPS

HERBICIDE APPLICATION DATA:

DATE:	MAY 15
TIME OF DAY:	11:00 am
TYPE:	PPI
SOIL SURFACE:	MOIST
SOIL TEMP:	68 F
RELATIVE HUMIDITY:	60%
WEATHER:	
WIND, mph:	1-2
SKY COVER:	CLOUDY
AIR TEMP:	75 F
GROWTH STAGE:	
CROP:	PREPLANT
WEED:	PRE

HERBICIDE APPLICATION EQUIPMENT:

SPRAYER:	CO2 BACKPACK SPRAYER
GPA:	29.5
PSI:	30
TIPS:	8002
HEIGHT:	18"
NOZZLE SPACING:	18"

INCORPORATION EQUIPMENT: ROTOTILLER, 2-3" DEEP

Ohio State Univ. Dept. Horticulture
TOMATO PREEMERGENCE WEED CONTROL STUDY
Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD RATE	GROW STGE	6/25/90 PANDI	% CONTROL CHEAL	POROL	AMARE	TOMATO PHYTO %INJURY 6/25/90	TOMATO YIELD (lbs)
WEEDY				0.0	0.0	0.0	0.0	0.0	151.7
HAND WEEDED				100.0	100.0	100.0	100.0	0.0	142.7
SONALAN	3.00	EC 2.00	PTP	16.7	0.0	16.7	0.0	0.0	188.7
SONALAN	3.00	EC 2.00	PPI	98.7	96.3	92.3	94.0	0.0	160.7
DUAL	8.00	EC 2.00	PPI	99.0	89.0	88.3	94.7	0.0	200.3
DUAL	8.00	EC 4.00	PPI	99.0	91.7	95.0	98.7	0.0	208.3
DUAL	8.00	EC 2.00	PPI	99.0	99.0	97.0	99.0	0.0	244.0
SENCOR	75.0	DF 0.375							
TREFLAN	4.00	EC 1.00	PPI	95.0	97.3	91.7	98.0	0.0	202.0
SENCOR	75.0	DF 0.375							
DUAL	8.00	EC 1.5	PPI	97.7	98.7	95.3	96.7	0.0	222.7
TREFLAN	4.00	EC 0.50							
SENCOR	75.0	DF 0.375							
DUAL	8.00	EC 1.5	PPI	99.0	96.3	92.3	98.7	0.0	212.7
TREFLAN	4.00	EC 0.50							
COMMAND	4.00	EC 0.25	PPI	97.7	97.0	98.3	78.3	20.0	204.0
LSD (.05)	=			15.0	4.5	15.3	13.6	13.6	77.7
Standard Dev.	=			8.7911	2.6181	8.9649	7.9802	7.9772	45.618
CV	=			10.72	3.33	11.37	10.23	438.75	23.47

Ohio State Univ. Dept. Horticulture
TOMATO POSTEMERGENCE WEED CONTROL STUDY
Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER

TITLE:	TOMATO POST-EMERGENCE WEED CONTROL STUDY
LOCATION:	FREMONT
PERSONNEL:	S.F. GORSKI, K.L. HALE, C. WILLER

PLOT INFORMATION:

SOIL TYPE:	SANDY LOAM, 3% O.M.
CULTIVAR:	HEINZ 7150
DATE PLANTED:	MAY 22, 1990
RATING DATE:	JUNE 19, 1990
HARVEST DATE:	SEPT 19, 1990
PLOT SIZE:	30 FT. X 5 FT.
PLOT DESIGN:	RCB w/ 3 REPS

HERBICIDE APPLICATION DATA:

DATE:	JUNE 12
TIME OF DAY:	12:00 pm
TYPE:	POST
SOIL SURFACE:	DRY
SOIL TEMP:	65 F
RELATIVE HUMIDITY:	55%
WEATHER:	
WIND, mph:	3-5
SKY COVER:	CLOUDY
AIR TEMP:	72 F
GROWTH STAGE:	
CROP:	9" TALL
WEED:	1"-3"
	AMARE
	CHEAL
	DIGSA
	POROL
	DIGSA

HERBICIDE APPLICATION EQUIPMENT:

SPRAYER:	CO2 BACKPACK SPRAYER
GPA:	29.5
PSI:	30
TIPS:	8002
HEIGHT:	18"
NOZZLE SPACING:	18"

INCORPORATION EQUIPMENT: NONE

Ohio State Univ. Dept. Horticulture
TOMATO POSTEMERGENCE WEED CONTROL STUDY
Conducted at FREMONT by Dr. Stanley F. Gorski
with cooperator CHUCK WILLER
All rates are specified as lb/A

TREATMENT NAME	AI #/gal	FD RATE	GROW STGE	% CONTROL 6/19/90 POROL	AMARE	PANDI	DIGSA	CHEAL	TOMATO PHYTO %INJURY 6/19/90	TOMATO YIELD LBS 9/20/90
CONTROL				0.0	0.0	0.0	0.0	0.0	0.0	143.0
LENTAGRAN	45.0	WP 0.45	POST	10.0	66.7	6.7	0.0	3.3	23.3	229.3
LENTAGRAN	45.0	WP 0.675	POST	13.3	94.7	25.0	0.0	13.3	40.0	218.7
LENTAGRAN	45.0	WP 0.90	POST	11.7	99.0	45.0	0.0	28.3	50.0	210.3
LENTAGRAN	45.0	WP 0.45	POST	11.7	78.3	93.0	99.0	94.3	6.7	210.7
FUSILADE2000	1.00	EC 0.20								
LENTAGRAN	45.0	WP 0.45	POST	99.0	82.7	64.7	0.0	30.0	28.3	230.3
SENCOR	75.0	DF 0.25								
LENTAGRAN	45.0	WP 0.45	POST	99.0	99.0	99.0	99.0	99.0	8.3	261.7
FUSILADE2000	1.00	EC 0.20								
SENCOR	75.0	DF 0.25								
LSD (.05)	=			3.0	23.8	46.5	0.0	43.7	15.7	62.6
Standard Dev.	=			1.6666	13.369	26.131	6.8193	24.563	8.7966	35.209
CV	=			4.77	17.99	54.88	0.02	64.08	39.30	16.39

* NOTE: Weed population per 1 ft
POROL = 5
AMARE = 1
PANDI = 4
DIGSA = 1
CHEAL = 2.5

Appreciation is given to the following industries for their support. Without their support much of this work would not have been possible.

Ciba-Geigy
DOW/Elanco
DuPont
ICI Americas
IR-4
Mid America Food Processors Association
Ohio Potato Growers
Ohio Vegetable and Potato Growers Association
United Ag Products
Dick Zeller

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